

are very like unto such as we have in Europe, unless that they are somewhat bigger and longer than ours. They have two little specks on their heads, which by night give so much light that three or four of those animals, being together upon a tree, it is not discernible at a distance from a bright shining fire. I had on a certain time at once three of these *cochinillas* in my cottage, which there continued until past midnight, shining so brightly that without any other light I could easily read in any book, although of never so small a print. I attempted to bring some of these insects into Europe when I came from those parts, but as soon as they came into a colder climate they died by the way. They lost also their shining upon the change of air, even before their death. This shining is so great, according to what I have related, that the Spaniards with great reason may well call them from their luminous quality *moscas de fuego*, that is to say fire-flies.

"There be also in Hispaniola an excessive number of *grillones* or crickets. These are of extraordinary magnitude, if compared to ours, and so full of noise that they are ready to burst themselves with singing, if any person comes near them."

Notes on the Genus *Parabombylius* (Diptera).

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The group to which the following species belong was first recorded when Coquillett referred the species *syndesmus* and *ater* to Rondani's genus *Thlipsogaster* (Trans. Am. Ent. Soc., 21, p. 108). In 1899, Williston (Psyche, p. 331) showed that these species do not belong to this genus but left the question of their generic status in abeyance. In *Biologia Centrali-*

niger, which is often very abundant and troublesome. His 'second sort' are evidently *Culicoides*, of which *C. furens* is the commonest coastal form throughout the Greater Antilles. The 'third species' is more difficult to identify, but the day-biting habits would indicate some species of *Simulium*, and Esquemeling's statement that 'they sting not at all, but do bite so sharply upon the flesh as to create little ulcers therein' might be his way of expressing the fact that the actual bite of *Simulium* is painless, but an ulcer-like lesion develops later."

FRANCIS M. ROOT.

Americana (Diptera Suppl., p. 286) the same author redescribed *Bombylius albopenicillatus* Bigot and referred this species and a new one (*dolorosus*) to this same group. In 1907 (N. Y. Ent. Soc. Jour., p. 1) he erected the genus *Parabombylius* for these four species with *ater* Coq. as genotype.

This genus is separated from *Bombylius* by having cell R5 narrowly open or closed in the margin of the wings, and by having a conspicuous patch of silvery scales between the base of the antennae and the eyes. All the species have several short, thin spines or bristles on the third joint of the antennae, which spines are lacking in most of the species of *Bombylius* known to me. They are present however in *fulvibasis* Macq., *validus* Lw., and possibly *lancifer* O. S. The species of *Parabombylius* are all small and the sexes often differ, sometimes quite remarkably.

Notes concerning a considerable extension of the known range of some of the species are given here, also descriptions of four new species. I am indebted to Prof. Jas. S. Hine and Mr. R. C. Shannon for loan of material. Also to Dr. Aldrich of the U. S. National Museum for a loan of cotypes of *P. ater* and *syndesmus* and other material for study.

Key to Species.

1. Ground color of tip of male abdomen and entire abdomen of female yellow *syndesmus* Coq.
Ground color of abdomen entirely black or very dark brown 2
2. Entire pile and tomentum of dorsum of abdomen and thorax unicolorous, orange or dark yellow *ater* Coq.
Pile and tomentum of dorsum of thorax or abdomen partly white or black 3
3. Pile and tomentum of dorsum of thorax and abdomen with no black intermixed *subflavus* n. sp.
Some black intermixed with pile and tomentum 4
4. Light colored pile of dorsum of thorax and abdomen partly white or yellow 5
Light colored pile of dorsum of thorax and abdomen reddish orange or wanting 6
5. A stripe of short white pile above the base of the wing to the humerus 7

- No such stripe present *albopenicillatus* Bigot
6. No orange pile on abdomen *dolorosus* Will
Orange pile and tomentum present on abdomen *pulcher* n. sp.
7. Pile on face longer than first joint of antenna and on antennae also long, no patch of white scales on occiput.
vittatus n. sp.
- Pile on face shorter than first joint of antennae and on antennae short, a patch of white scales on occiput.
maculosus n. sp.

***Parabombylius ater* (Coq.)**

Two females and one male taken at Brownwood, Texas; September 11 to 16 on Broomweed (*Gutierrezia texana*). Two females and ten males taken near Abilene, Texas, September 14. These latter were all taken in in a patch of Broomweed less than four feet square. They seemed to be continually coming out of the center of the patch. Mr. Frank M. Hull has collected a number of specimens of this species near A. & M. College, Miss. They were hovering over hot red sand. There are also several specimens in the Ohio State University Collection from Vinton, Ohio, in June. Most of the specimens I have seen have a bright orange-colored pile instead of yellow as is the type. The exact shade of the specimens in the series is variable, however. The females are like the males except that there is less black pile on the venter.

***Parabombylius albopenicillatus* (Bigot)**

One male taken April 30, on the west face of Mt. Barker, near Austin, Texas. It differs from the description in having a scattering of orange tomentum on the dorsum of abdomen and scutellum, and a few long yellow hairs among the black below the antennae. In my specimen there is a patch of yellow tomentum on either side between the characteristic white patch of the genus and the antennae.

There are two females in the collection of Mr. R. C. Shannon which agree with the description of this species. They are from Alto Pass, Illinois, July 29. All previous records are from Mexico.

***Parabombylius dolorosus* (Will.)**

One female taken on Shoal Creek near 28th Street, Austin,

Texas, March 31, hovering over some water plants, may perhaps not be this species, although it differs only slightly. It lacks the white tomentum, as apparently did some of Williston's specimens: there are also no spots of tomentum on the sides of the abdomen, but those on the center, tho small, are strikingly prominent on the black background. These, with the orange-red tomentum on the scutellum, give this specimen a very characteristic appearance.

***Parabombylius pulcher* n. sp.**

♀. Ground color opaque black, pleurae grayish, face with long black hairs and shorter, shining orange ones. Front orange tomentose with scattered, long, black hairs, more abundant on the ocellar tubercle. Occiput with bushy orange pile. Antennae black, first joint with long spiny hairs and with a few orange scales on the outside, second joint one half as long as the first, with shorter spines; third about equal to first two together, fusiform and slender, a scattered group of short spines towards its distal end. At the end of the third joint are three annuli, the last of which is light yellow. Mesonotum and scutellum with long black hair and scattered orange-red tomentum; mixed orange and black hair above the wings and on the pleurae, shorter and mostly orange below. Abdomen with scattered orange-red tomentum and long black hairs. Two small, but conspicuous, spots of yellow scales at the apex of the first segment, in the center below the tip of the scutellum; a patch of orange-red, stiff hairs on the sides of the first segment and on the dorsum of this segment for about one-fourth of the way across from each side; second and third segments with similar patches of hairs, but black on the basal half; fourth segment with shorter but similar hairs. Venter orange tomentose with long black hairs. Legs yellow, bases and under part of femora dark brown; spines black; underside of front femora with scattered, long, black hairs; the last joints of the tarsi dark brown; legs covered with yellow and black scales. Wings hyaline, basal half of cell R and cell C fumose, the former ending in a darker spot. Length 6 mm.

Holotype female collected at Austin, Texas, May 17, 1924, in my own collection.

***Parabombylius subflavus* n. sp.**

♂. Ground color black, venter somewhat grayish; face with

long hairs, dark yellow on the lower part, brown and black above; a tuft of long black hairs above the ocellar tubercle. Occiput yellow pilose, a patch of silvery white scales opposite each humeral angle of the thorax. Antennae black, first two joints with long, stiff hairs, a few, short, scattered spines toward the end of the third; third joint about equal to the first two together, fusiform and slender with a distinct constriction near its base. At the end of the third joint are three annuli the last of which is light yellow. Most of the thorax and abdomen covered with whitish yellow pile. A patch of silvery scales in the center of abdominal segments, 2, 3, 4, 5 and 6; a tuft of blackish pile on the sides of segment 2; the pile at the bases of segments 3, 4 and 5 is more white than at the apex. On the venter there are a few, long, black hairs toward the apex; the pile on the coxae is mixed black and yellow. Legs yellow, coxae, tarsi, basal half of four front femora, basal fourth of hind femora, and tips of tarsi dark brown. Spines black, most of scales on legs yellow. Wings hyaline. Length 5.5 mm.

Holotype male, from Wilcox, Ariz., August 1 (A. K. Fisher), in the collection of the U. S. National Museum.

***Parabombylius vittatus* n. sp.**

♀. Ground color black, face, front, and first joint of antennae with long, stiff, black pile. Front with appressed, orange-red, curly tomentum; occiput with orange-red tomentum, lighter below. Third joint of antennae longer than first two together, broader than either; second and third with short bristles; three annuli as in the other species. Thorax and scutellum orange-red tomentose and sparsely black pilose. A stripe of short white pile from the humeri to the bases of the wings is continued as a yellow stripe above the bases of the wings; two patches of similar white pile just back of the angles of the eyes on the mesonotum, a third in the middle just in front of the scutellum. Abdomen (greasy) is largely black tomentose, orange-red tomentose towards the apex with scattered, very long, black hairs here and on the scutellum. The pile on each side of the first segment is yellow, with appressed, white tomentum at the apex; similar tomentum occurs on the sides of the dorsum of segments 4 and 5 and in the center of 2, 3, 4 and 5. Venter, pleurae, and coxae entirely black tomentose and pilose. Legs a dark chocolate brown, lighter toward the tips. Wings hyaline, lightly tinged with brownish. Length 7.5 mm.

Holotype female from Filmore Canyon, Organ Mountains (alt. about 5700 ft.), New Mexico (Townsend), in the collection of U. S. National Museum.

***Parabombylius maculosus* n. sp.**

♀. Ground color black, lighter beneath, face with short, stiff hairs, black with a few yellow ones intermixed; front orange tomentose with scattered, black hairs. The white scales occupy the entire area between the antennae and the eyes. Occiput yellow pilose, a patch of white scales opposite each humerus. First two joints of antennae with short, scattered, bristly hairs; third with a few shorter ones; third joint broader than first or second, longer than first two together, with three annuli, the third yellow. Thorax and scutellum with appressed, short, golden-yellow pile; a stripe of short, white pile above the bases of the wings between the humeri and post-alar callosity; a shorter, similar stripe opposite the dorsal angle of each eye; another short stripe in the center anterior to the base of the scutellum; scutellar spines yellow. Abdomen with appressed, yellow pile, white tomentum on the base of segment 1, on each side of the dorsum of segments 3 and 4 and the center of 6, a patch of black pile on the sides of segment 2; venter and pleurae yellow pilose, the latter lighter toward the front; coxae with a few black hairs. Legs yellow, base of femora, coxae and tarsi darker. Wings hyaline. Length 5 mm.

Holotype female from Tucson, Ariz., August 14, 1909 (A. K. Fisher), in the collection of the U. S. National Museum.

This may possibly be the female of *subflavus*, but since it differs greatly and since it comes from a quite widely separated locality, I have described it as distinct.

On the Genus *Anomis* (Lepid., Phalaenidae).

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***Anomis* Hbn.**

Type *Anomis crosa* Hbn.

1821?, Hübner, Zutr. Exot. Schmett., II, 19, No. 144, ff. 287-288, *crosa* sole species and therefore type.

1823?, Hübner, Samml. Exot. Schmett., II, pl. 411, ff. 1-4, *cracta* sole species mentioned.

1825, Hübner, Verz. bek. Schmett., p. 249, mentions *exacta* and